

Appl. No. 10/659,597
Amdt. Dated July 29, 2004
Reply to Office Action of February 17, 2004

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) ~~Apparatus for installation in line in a vacuum system between a suctioning device for suctioning liquid effluent, and the inlet of a vacuum pump, the vacuum pump suitable for passing both gas and liquid, for separating particles from the liquid effluent, the apparatus~~ A system for separating particles from a particle-laden liquid effluent drawn from a suctioning device, comprising;
 - (a) a surge tank for receiving liquid said effluent, ~~the said~~ surge tank having a surge tank inlet ~~for connecting to a~~ in fluid communication with said suctioning device, a surge tank liquid effluent outlet and a surge tank air outlet,
 - (b) ~~an air bypass conduit for establishing a fluid interconnection between the surge tank air outlet and a vacuum pump inlet~~ a non-electrically driven, passive sedimentary deposit tank, said sedimentary deposit tank acting primarily under the influence of gravity to cause settlement of said particles, and having a sedimentary deposit tank inlet connected to said surge tank liquid effluent outlet;
 - (c) ~~a sedimentary deposit tank having a sedimentary deposit tank inlet connected to the surge tank effluent outlet for receiving liquid effluent from the surge tank and~~

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~~a sedimentary deposit tank outlet connected to the air bypass conduit, and within which sedimentary deposit tank the particles settle out from the liquid effluent a vacuum pump having a vacuum pump inlet;~~

- (d) a by-pass conduit establishing fluid communication between said surge tank air outlet and said vacuum pump inlet and said sedimentary deposit tank outlet being connected to said by-pass conduit such that when said vacuum pump is operating, the vacuum pump acts to draw said liquid effluent from said surge tank through said sedimentary deposit tank and said by-pass conduit and to draw air from said surge tank air outlet through said by-pass conduit.
2. (Currently Amended) Apparatus A system as defined in claim 3 ~~14~~, further comprising a flow inhibiting means for inhibiting the flow of liquid effluent through the sedimentary deposit tank for facilitating the settling of particles within the sedimentary deposit tank.
3. (Currently Amended) Apparatus A system as defined in claim 2, wherein the flow inhibiting means comprises a constriction of the liquid effluent flow path in the vicinity of the sedimentary deposit tank outlet.
4. (Currently Amended) Apparatus A system as defined in claim 3, wherein the constriction comprises a conduit connected between the sedimentary deposit tank outlet and the air bypass conduit, sized so as to constrict the flow of liquid effluent.

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5. (Currently Amended) ~~Apparatus~~ A system as defined in claim 2, wherein the flow inhibiting means comprises a constriction of the liquid effluent flow path in the vicinity of the sedimentary deposit tank inlet.
6. (Currently Amended) ~~Apparatus~~ A system as defined in claim 5, wherein the constriction comprises a conduit between the surge tank effluent outlet and the sedimentary deposit tank inlet sized so as to constrict the flow of liquid effluent.
7. (Currently Amended) ~~Apparatus~~ A system as defined in claim 2, wherein the flow inhibiting means is a flow controlling means.
8. (Currently Amended) ~~Apparatus~~ A system as defined in claim 7, wherein the flow controlling means is a throttle valve in the vicinity of the sedimentary deposit tank outlet, whereby the flow rate of effluent may be adjusted by adjusting the throttle valve.
9. (Currently Amended) ~~Apparatus~~ A system as defined in claim 8, wherein the throttle valve is a needle valve.
10. (Currently Amended) ~~Apparatus~~ A system as defined in claim 9 wherein the cross sectional area of the liquid effluent flow path in the vicinity of the sedimentary deposit tank ~~inlet~~ outlet is less than the cross-sectional area of the liquid effluent flow path in the vicinity of the sedimentary deposit tank inlet, so as to reduce the flow rate of liquid effluent out of the sedimentary deposit tank via the sedimentary deposit tank outlet as compared to the potential flow rate of liquid effluent into the sedimentary deposit tank via the sedimentary deposit tank inlet.

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11. (Currently Amended) Apparatus A system as defined in claim 3 14, wherein the sedimentary deposit tank is detachably coupled to the surge tank effluent outlet and the air bypass conduit, wherein the sedimentary deposit tank is readily detachable for emptying and replacement.
12. (Currently Amended) Apparatus A system as defined in claim 3 14, further comprising one or more filters through which liquid effluent passes en route to the vacuum pump.
13. (New) A system as in claim 1 wherein when said vacuum pump is operating, the pressure at the suctioning device is higher than the pressure inside the surge tank and the pressure inside the surge tank is higher than the pressure at the vacuum pump inlet.
14. (New) A system as in claim 13 wherein said suctioning device is a dental operatory suctioning device.